USAEHA

Guidelines *for Protecting Graves Registration Personnel from Potentially Infectious Materials*

TG 195, April *1993*

U.S. Army Environmental Hygiene Agency
Aberdeen Proving Ground Maryland 2101 O-5422

CONTENTS

PREFACE

Personnel who handle or come in contact with human remains are at risk to infections. Bloodborne pathogens, infectious aerosols, or other potentially infectious materials (OPIMs) may transmit the hepatitis B virus (HBV), hepatitis non-A and non-B viruses, human immunodeficiency virus (HIV) and tuberculosis, to name a few,

Evidence indicates that direct contact with bloodborne pathogens poses a significant hazard to personnel. Exposure to infectious aerosols also places personnel at risk, but to a lesser degree than bloodborne pathogens. Each exposure poses its own risks depending on the virulence of the pathogen, the size of the dose delivered, the route of exposure, and the individual's susceptibility.

Since a single exposure may cause infection, the best way to reduce the risk is to prevent or minimize exposures. The Occupational Safety and Health Administration (OSHA) promulgated a standard to protect employees who are occupationally exposed to bloodborne pathogens. Adherence to the requirements of this standard and enforcement of specific work practices for handling human remains should protect employees from most infectious microorganisms.

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO ATTENTION OF

HSHB-MI-H

April 1993

USAEHA Technical Guide No. 195

Guidelines for Protecting Graves Registration Personnel from Potentially Infectious Materials

1. PURPOSE. This technical guide (TG) was designed to educate graves registration (GRREG) personnel about the safety and health practices for protection against potentially infectious materials during a combat situation or a large disaster. The guidelines herein adhere to the Occupational Safety and Health Administration (OSHA) standard, **29 CFR 1910.1030, Occupational *Exposure to Bloodborne Pathogens.***

2. **AUDIENCE.** This TG is for commanders (including commanders of combat units), logistical staff officers, and personnel involved in or responsible for **search, recovery, evacuation, and** identification of deceased personnel.

***3.* USING THIS TECHNICAL GUIDE.**

a. This TG may be used to supplement the U.S. Army Environmental Hygiene Agency (USAEHA) TG 190, ***Guide to Managing Occupational Exposure to Bloodborne Pathogens,*** to **educate GRREG** personnel about safety and health practices necessary in **their jobs.** While this TG outlines information specific to GRREG personnel, **USAEHA** TG 190 is the definitive reference for detailed **guidance on** protection from bloodborne pathogens and other potentially infectious materials.

b. The design of this TG allows for many different uses. The separate fact sheets contained within lend themselves for use in training sessions. The entire TG may **also be used to** develop standing operating procedures, or for **general guidance.**

c. The fact sheets present information that is useful to both the employee and the employer and distinguish between the responsibilities of each. While the general directives are geared towards the employee, the employer must also be knowledgeable of them to oversee the work of employees. The employer, however, holds responsibilities in addition to those of employee oversight. The fact sheets distinguish this information from the general directives.

FACT SHEETS

56-001-0493	Exposure Determination, Job Hazard Analysis and Accidents and Exposure Incidents
56-002-0493	Written Exposure Control Plan
56-003-0493	Work Practice Controls
56-004-0493	Decontamination Procedures for Chemical Disinfectants
56-005-0493	Categories of Chemical Disinfectants
56-006-0493	Warning Labels and Signs
56-007-0493	Personal Protective Equipment
56-008-0493	Personal Protective Equipment for Specific Tasks
56-009-0493	Training: Guidelines for the Employer
56-010-0493	Immunizations and Medical Surveillance: Guidelines for the Employer
56-011-0493	Regulated Medical Waste (RMW)

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Just the Facts

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Exposure Determination, Job Hazard Analysis, and Accidents and Exposure Incidents

- Graves Registration Personnel
- Safety and Health Precautions
- Disease and Injury Prevention

Exposure Determination

The employer must—

◆Review work procedures for each job classification to identify employees who are occupationally exposed. [Employers must determine exposure without regard to employee use of personal protective equipment (PPE).]

*Develop and maintain a list of the job classifications. duties, or procedures that might involve occupational exposure. These exposure determinations should be documented in the exposure control plan.

- All employees in the job classification *Graves Registration Specialist, Military Occupational Specialty (MOS) 57F* perform tasks that may involve exposure to blood and other potentially infectious materials. The employer should therefore list MOS 57F as a job classification involving occupational exposure.

- Only some employees in the job classification *Material Storage and Handling Specialist, MOS 76V* clean and disinfect contaminated equipment. Since not all employees within this job classification have the potential for exposure, the employer should Include both the job classification (MOS 76V) and the task description (cleaning contaminated equipment) on the listing.

Job Hazard Analysis

The employer may use job hazard analysis as a means of developing the exposure control plan. Job hazard analysis techniques involve—

◆Analyzing each job or task to identify safety and health hazards. Together, the employer and employees should-

-. Divide jobs into major tasks and list every step required for each task in its order of occurrence.

- Examine each job step to determine existing or Potential hazards, actions, or conditions that could lead to an accident or illness.

- Assess the environmental conditions under which the job is performed.

- Document the analysis, including the job title. location. date, each job step, its associated hazard. the cause of the hazard, and recommended preventive measures. The U.S. Department of Labor. Occupational Safety and Health Administration publication entitled Job *Hazard* Analysis (OSHA 3071) contains a Job Hazard Analysis Form.

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◆**Implementing** controls to protect employees from the occupational exposures identified. Controls may include universal precautions, engineering controls, work practice controls, PPE, employee training, proper housekeeping. proper handling of regulated medical waste. and ergonomic controls.

◆**Evaluating** controls periodically to determine effectiveness and identify those that should be replaced with other controls.

Accidents and Exposure Incidents

The employer must—

◆**Investigate** all accidents and exposure incidents.

◆**Evaluate** the policies and control measures in place for both accidents and exposure incidents.

◆**Document** evaluations, establish correct&e actions, and monitor the effectiveness of these actions.

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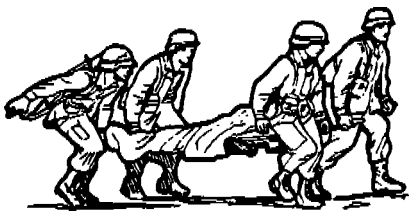
Written Exposure Control Plan

Publication



To comply with 29 CFR 1910.1030. the employer must develop a written exposure control plan designed to prevent or minimize occupational exposures. This plan may be-

+ A separate document.

◆ A part of an existing document, such as the safety or infection control program document.

If the exposure control plan is part of an existing program document, the employer should develop and publish a policy letter to-

+ State the goals of the exposure control plan.

◆ Inform employees where to obtain copies of the plan.

Contents

he employer must include the following in the written exposure control plan:

◆ Documentation of the exposure determinations. (See the fact sheet entitled "Exposure Determination, Job Hazard Analysis and Accidents and Exposure Incidents.")

◆ A schedule and method of implementation for the elements of the program. (See USAEHA Technical Guide 190. *Guide to Managing Occupational Exposure to Bloodborne Pathogens,* for a detailed description of the program elements.)

◆ Procedures for evaluating accidents and exposure incidents. (See the fact sheet entitled "Exposure Determination, Job Hazard Analysis and Accidents and Exposure Incidents.")

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- **Safety and Health Precautions**
- **Disease and Injury Prevention**

For further details, see USAEHA TG 190. Element 1: Exposure Control Plan

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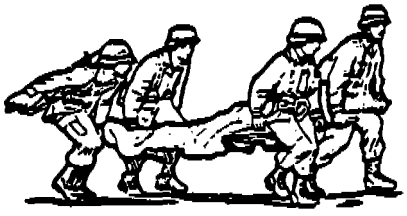
Work Practice Controls



Employees must-

Practice universal precautions

◆ Treat all human blood and potentially infectious materials as if contaminated with bloodborne pathogens.

• Use appropriate personal protective equipment (PPE).

◆ Wash hands and skin with warm water and soap immediately after—
-Any contact with blood or other potentially infectious material (OPIM).
-Removing gloves, even if gloves appear to be intact.

◆Use waterless antiseptic hand cleansers when handwashing facilities are not available, but wash hands immediately when warm water and soap become available.

Avoid mucous membrane and skin contact

◆Avoid touching your skin, mouth, nose, eyes, or any skin lesions or cuts with contaminated gloves, fingers, or other contaminated items or surfaces.

◆Refrain from handling personal items, such as pens and combs, to prevent soiling or contamination of these items.

◆Cover cuts, abrasions, or other skin lesions with an appropriate bandage prior to donning PPE.

Contain and confine blood and body fluids

◆Place human remains and disassociated portions in plastic burial pouches.

◆Avoid, or at least keep to a minimum, splashing, splattering, and generation of aerosols.

Manage sharps properly

◆Be alert for sharp objects, such as broken glass, metal, and knives.

◆Store reusable sharps in a manner that prevents lacerations or puncture wounds.

◆Use mechanical means, such as a scoop, brush and dustpan, or tongs to clean up broken glass or sharp objects.

Disinfect potentially contaminated equipment and environmental and working surfaces

◆Disinfect all interior and exterior surfaces of reusable equipment and regulated medical waste (RMW) containers between uses.

- **Graves Registration Personnel**
- **Safety and Health Precautions**
- **Disease and Injury Prevention**

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◆Maintain a cleaning schedule. which requires the cleaning of work surfaces, equipment surfaces. and waste containers:
- After completion of procedures.
- Immediately or as soon as possible when surfaces become overtly contaminated.
- After any spill of blood or OPIM.
- At the end of the work shift.

Handle contaminated materials properly

◆Place contaminated clothing and PPE into leak-resistant (vinyl-coated or close-knit polyester) bags or containers immediately upon removing the articles.

◆Use laundry bags or containers that are color-coded red, or containers labeled with the fluorescent orange or orange-red biohazard warning symbol.

◆Brush scrub boots and leather goods with soap and hot water.

◆Never wash contaminated PPE with personal laundry.

◆Do not wear contaminated clothing outside the work area.

Clean up spills of potentially infectious materials

◆Clean up spills immediately.
- Remove visible material with absorbent disposable towels.
- Decontaminate the area using clean towels and an appropriate germicide/disinfectant, such as a 1:100 solution of bleach and tap water (Le.. approximately 1/4 cup bleach per gallon of tap water).
- Allow area to air dry.
- Dispose of absorbent towels and other waste in an appropriate container. (See fact sheet entitled Regulated Medical waste (RMW).]

*Use appropriate PPE:
- Wear disposable latex, polyvinyl chloride (PVC) or vinyl gloves.
- Wear eye and face protection, and an impervious gown or apron if splashing is likely.
- *Wear* shoe covers when cleaning up large spills.

◆Keep a commercial or domestic spill kit available. This kit should contain—
- one pair of splash-proof safety goggles.
- Two pairs of disposable latex gloves.
- One pair of disposable shoe covers.
- Disinfectant (and its material safety data sheet).
- A scoop or scraper.
- One disposable face mask.
- One disposable apron.
- Absorbent disposable towels.
- Two red plastic bags with twist ties.
- A waterless antiseptic hand cleanser.

Guidelines for the Employer

The employer must—

◆ Inform employees of the hazards associated with hazardous chemicals/disinfectants in accordance with 29 CFR 1910.1290. *Hazard Communication.*

◆ Oversee that employees adhere to all work practices described herein.

◆ Provide adequate handwashing facilities.

◆ Make provisions for laundering contaminated clothing and disinfecting PPE.

◆ Wash contaminated clothing and PPE—
- according to the manufacturer's instructions, or
- in hot water at least 160° F and detergent for 25 minutes. or
- with chemicals at the proper concentration for low temperature washing.

For further details, see USAHEA TG 190, Element 2: Methods of Compliance, Engineering and Work Practice Controls

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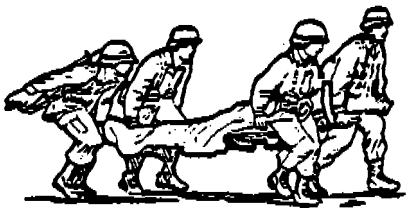
Decontamination Procedures for Chemical Disinfectants

General Principles



- Decontamination involves routine cleaning and disinfection of instruments, devices. and environmental surfaces to minimize the risk of cross-contamination and bloodbome disease.
- Decontamination procedures range from removal of visible material with soap and water to disinfection and sterilization procedures.
- Factors to consider when selecting a decontamination procedure are the desired degree of microorganism removal. type of surface to be decontaminated. expense, and ease of disinfectant use.

Chemical *Disinfection*

- Always wear appropriate personal protective equipment (PPE) to avoid contact with hands. eyes, face, etc. when using a chemical disinfectant.
- **Use disinfectants in well-ventilated areas.**
- **Thoroughly remove visible contamination (blood,** body fluids. and other **potentially** infectious **materials)** with soap and **water** before using a **chemical disinfectant.**
- Select **disinfectants** most suited to the activity and **always** read the disinfectant's label and **material safety** data sheet **(MSDS).**
- **Open, disassemble,** and completely submerge **instruments to ensure direct** contact between **all surfaces** and **disinfectant.**
- **Thoroughly rinse and dry all items after disinfecting, taking care not to recontaminate items.**

- **Graves Registration Personnel**
- **Safety and Health Precautions**
- **Disease and Injury Prevention**

Guidelines for the *Employer*

Employers must comply with 29 CFR 1910.1200. ***Hazard Communication,*** when employees are required to use hazardous chemicals. This standard requires a **written** hazard *communication* program. **hazardous chemical inventories,** appropriate **hazard** warnings, **MSDSs,** and an **employee information** and **training** program.

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Categories of Chemical Disinfectants

- Graves Registration Personnel
- Safety and Health Precautions
- Disease and Injury Prevention

Chlorine compounds

Characteristics:

- Universally active against all microorganisms.
- A 1:100 dilution 1500 parts per million (ppm)] of household bleach (approximately 1/4 cup of bleach to 1 gallon of tap water) effectively disinfects blood spills containing human immunodeficiency virus (HIV) or hepatitis B virus (HBV).

Application: A 1:100 dilution of household bleach and tap water can be used to disinfect equipment and work surfaces.

Concentration: 3% concentration of active ingredients.

Shelf-life: Less than 1 week.

Health hazards: Toxic and corrosive at 10,000 ppm.

Personal protection: Splash-proof safety goggles and vinyl or latex gloves for repeated or prolonged use.

Examples: Clorox[1], Purex[2], and Chloros.

Iodophor compounds (iodine)

Applications:

- General disinfectant when mixed with other substances.
- Commonly used as a skin disinfectant.

Concentration: 2% concentration of active Ingredients.

Shelf-life: Greater than 1 week

Personal protection: None required.

Example: Wescodyne.[3]

Phenolic compounds

Characteristics:

- Effective against a wide range of bacteria including mycobacterium tuberculosis.
- Not readily neutralized by organic materials.
- Stable at dilutions used for disinfection.
- Relatively inexpensive.

Application: Disinfection of equipment and work surfaces.

Concentration: 1-2% concentration of active ingredients.

Shelf-life: Greater than 1 week

Health hazards: Toxic and somewhat corrosive.

Personal protection: Splash-proof safety goggles and butyl rubber or neoprene gloves. NOTE: Butyl rubber gloves are preferred.

Alcohols

Application: General surface disinfectant.

Concentration:

- 70% concentration of active ingredients for ethyl alcohol
- 85% concentration of active ingredients for isopropyl alcohol

Shelf-life: Greater than 1 week for both ethyl and isopropyl alcohol.

Health hazards: Isopropyl alcohol and ethyl alcohol are eye and mucous membrane irritants.

Personal protection: Splash-proof safety goggles, face shields, and nitrile rubber gloves. NOTE: Neoprene or teflor gloves may also be used for isopropyl alcohol, and butyl rubber or neoprene gloves may be used for ethyl alcohol.

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Quaternary ammonium compounds

Characteristics:

- Relatively nontoxic.
- Antibacterial compounds with detergent properties.

Applications: Commonly used for general housekeeping and disinfecting environmental surfaces.

Contraindication: NOT to be used for disinfecting instruments.

Concentration: 2% concentration of active ingredients.

Shelf-life: Greater than 1 week.

Health hazards: Nasal irritant and can promote contact dermatitis.

Personal protection: Polyvinyl chloride (PVC) gloves.

Examples: A-33, Benzalkonium chloride. and Roccal.[4]

Aldehydes

Application: Generally used in cold sterilization of instruments.

Contraindication: Aldehydes are potential human carcinogens. and therefore should NOT be used as general disinfectants.

Concentration:

- 6-8% concentration of active ingredients for formaldehyde.
- 2% concentration of active ingredients for glutaraldehyde.

Shelf-life: Greater than 1 week for both formaldehyde and glutaraldehyde.

Health hazards:

- Formaldehyde is a respiratory tract irritant and suspected carcinogen.
- Glutaraldehyde is a skin and mucous membrane Jrrltant and can cause allergic contact dermatitis.

Personal protection: Splash-proof goggles, face shields, and butyl rubber gloves.

Example: Cidex.[5]

[1] Clorox is a trademark of Clorox Co., 1221 Broadway, Oakland, California.

[2] Purex is a trademark of Armour-Dial, Inc., Greyhound Tower. Phoenix, Arizona.

[3] Wescodyne is a trademark of West Chemical Products. Inc., Long Island City, New York

[4] Roccal is a trademark of Winthrop Laboratories Div., Sterling Drug Co., New York, New York

[5] Cidex is a trademark of Surgikos, Inc., Arlington, Texas.

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Warning Labels and Signs

Always place contaminated **articles** in-

* Color-coded (red) bags or containers, or
* Containers labeled with the biohazard symbol:

This table provides guidance for labeling containers of contaminated materials.

Labels and Signs

Item	No Label	Biohazard Symbol		Red Container
Regulated Medical Waste (RMW) Container		*X*	**or**	*X*
Reusable Contaminated Sharps **Container**		*X*	**or**	*X*
Reusable **Contaminated Instruments**		*X*	**or**	**X**
Individual Specimen Containers	**X[1]** **or** '	*x*	*or*	*X*
Contaminated Equipment Requiring Service		**X[2]**		
Specimens and RMW Shipped to Another Facility		*X*	*or*	*X*
Contaminated Laundry	**X[1]** or	**X**	or	**X**

[1]Universal precautions are used for handling specimens or when employees know the specific use of the container

[2]Plus a label indicating where contamination exists

For further details, see USAEHA TG 190. Element 5: Labels and Signs

SOURCE: Department of Labor, OSHA. Occupational Exposure to Bloodborne Pathogens: Precautions for emergency responders. (OSHA 3130) Washington, DC: GPO, 1992.

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- **Safety and Health Precautions**
- **Disease and Injury Prevention**

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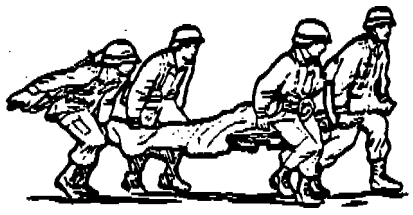
Personal Protective Equipment



- **Graves Registration Personnel**
- **Precautions**
- **Disease and Injury Prevention**

Body protection

- Select protective body clothing based **on** the task and the degree of **exposure.**

- Wear Impervious. disposable gowns or aprons, lab coats, or rain gear or ponchos to protect clothing from large splashes or quantities of blood.

- **Keep an extra change of work** clothing on hand at all **times.**

***Hand*protection**

- **Wear polyvinyl chloride (PVC) or vinyl gloves when handling** human **remains.**

- Wear structural fire-fighting **gloves** that meet the requirements of 29 **CFR** 1910.156. ***Fire Brigades,*** for situations where broken glass and **sharp edges may be encountered,** such as when **extricating bodies** from **wreckages.**

- **Select gloves that fit tightly at the wrist** to **prevent** hand contamination **through** the **cuff** during contact with large amounts **of blood.**

- Inspect reusable gloves **prior** to each use. Replace gloves **if they** are cracked. peeling. tom. punctured. or exhibit any **signs** of deterioration.

Eye and face protection

- Wear a surgical mask and safety glasses or a face shield when there **is** a potential for **splashing** of blood or body fluids. or for the generation of airborne particles from **dried** blood.

- Cover eye **glasses** with a face shield or eye goggles.

Foot protection

Wear rubber boots or appropriate shoe covers when there is a **potential** for footwear to be grossly **contaminated.**

Respiratory ***protection***

Respiratory protection is not normally required unless the local medical authority deems it essential to protect employees **from biohazardous** materials.

Removing ***personal*** *protective equipment* ***(PPE)***

- **Remove PPE as soon as possible** when it becomes saturated with blood or other potentially infectious materials and always **prior** to leaving the scene or work area.

- **Avoid** sldn contact **with** exterior **surfaces** when **removing** PPE.

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Guidelines for the Employer

The employer must-

+ Oversee that employees use PPE appropriately, as described herein.

◆ Provide employees with appropriate PPE. This includes eye and face protection, body protection. hand protection. foot protection. and **respiratory** protection. (PPE does not include work clothes such as uniforms, pants and shirts.)

◆ Maintain a supply of extra gloves so that employees can change tom or punctured gloves **immediately**.

◆ Comply with 29 CFR 1910.134, ***Respiratory*** Protection, when providing employees with respirators. These requirements include the development and implementation of a respiratory protection program that includes:

- **Written** standing operating procedures for respirator selection and use.
- Respirator selection based on the type and degree of hazard.
- Employee training.
- Regular cleaning and disinfection of **respirators.**
- Proper storage of respirators.
- Respirator inspection.
- Surveillance of work conditions and the degree of exposure.
- Program evaluation.
- Employee medical qualifications for respirator use.

For further details, see ***USAEHA TG 190,*** Element 2: Methods ***of Compliance, Personal Protective*** *Equipment*

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Just the Facts

56-008-0493

Personal Protective Equipment for Specific Tasks

Task or Activity	Gloves	Eyewear	Mask	Gown Apron	Head Cover	Shoe Cover
Handling human remains	Yes	No'	No'	Yes	No[1,2]	No[1,2]
Handling clothing and personal effects	Yes	No	No	No[2]	No	No
Opening bodies/ evisceration of organs	Yes	Yes	Yes	Yes	Yes	Yes
Collecting blood, body fluids, tissues	Yes	Yes	Yes	Yes	Yes	Yes
Closing body cavities	Yes	No'	No'	Yes	No[1,2]	No[1,2]
X-raying remains	Yes	No'	No'	No[2]	No	No
Cleaning floors	Yes	No'	No	No'	No	No
Cleaning instruments/ equipment	Yes	Yes	Yes	Yes	No	No
Cleaning tables	Yes	Yes	Yes	Yes	No	No
Disposing of trash	Yes	No	No	No[2]	No	No
Cleaning	Yes	Yes	Yes	Yes	No	No

[1]unless splashing is likely
[2]unless soiling is likely

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- **Safety and Health Precautions**
- **Disease and Injury Prevention**

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Training: Guidelines for the Employer

The employer **must-**

+ Develop and implement an information and training program for those employees **with** occupational exposure to blood or other **potentially** infectious materials **(OPIM).** Training should **include an** explanation or description of the following **elements:**

- 29 **CFR** 1910.1030. *Occupational* Exposure *to Bloodborne Pathogens.*
- The activity's exposure control plan and **instructions** for how to obtain a' written copy of the **plan.**
- The **basic epidemiology, modes** of **transmission, and symptoms** of **bloodborne diseases.**
- **The criteria for the recognition of tasks and other activities in which occupational** exposure may **occur.**
- The methods that prevent or **minimize occupational exposure [i.e., engineering** controls. work practice controls, personal protective equipment **(PPE)]** and their **limitations.**
- The selection **criteria** far **PPE** and **the criteria** for equipment availability. **use, handling,decontamination,and** disposal.
- The hepatitis B **vaccine** to include its **benefits, efficiency,** safety. **administration,** and **availability.**
- The **procedures** for **reporting exposure incidents** and the **availability** of **medical** treatment and follow-up **examinations.**
- **The** procedures for reporting and cleaning up spills.
- The **warning signs,** labels. and **color-coding system.**

◆ **Train** employees at the time of initial assignment and annually thereafter.

◆ **Provide** additional training when existing tasks and procedures are modified. and prior to the introduction of new tasks and procedures.

◆ Maintain training records for at least 3 years. Documentation must include-
- The dates of the **training** sessions.
- A summary of the **training** contents.
- The names and **qualifications** of the **individual(s)** conducting the training.
- The names and job titles of all employees attending the **training.**

◆ Designate an individual(s) to conduct the **training.** This individual must be conversant in each of the training elements.

For further **details, see USAEHA TG 190.** Element **6: Information and Training.**

- **Graves Registration Personnel**
- **Safety and Health Precautions**
- **Disease and Injury Prevention**

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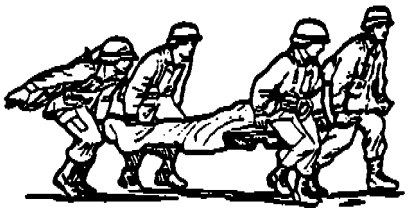
Immunization+ and Medical Surveillance: Guidelines for the Employer



Standard immunizations

Immunizations for graves registration (GRREG) personnel should Include. as a **minimum—**

- Those specified for active-duty personnel in AR 40-562
- Hepatitis B
- Tetanus

Other immunizations

The local preventive medicine authority may determine the need for **other** immunizations-

+ When applicable for **the** mission or theater of operations.

- when unusual circumstances or threats suggest that **personnel** may be **exposed** to biological (infectious) hazards for **which** standard immunizations provide inadequate protection.

NOTE: Before modifying the standard immunization regimen, the local preventive medicine authority may consult the following to clarify the nature and level of the infectious threat and available preventive measures:

- **Graves Registration Personnel**
- **Safety and Health Precautions**
- **Disease and Injury Prevention**

- **Chief,** Operational Medicine Branch
  U.S. Army Research **Institute** of Infectious Diseases
  Fort **Detrick,** MD 21701-5011
  Commercial **(301) 619-7244/7193,** DSN **343-7244/7193**

- Disease Control Consultant
  Office of The Surgeon General
  ATTN: SGPS-PSP-D
  5109 **Leesburg** Pike
  Falls Church. VA 22041-3258
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Healthcare Hazards Division
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Medical surveillance for ***individuals***

There is no special medical surveillance technique or schedule for GRREG personnel. Standard medical **surveillance** practices include:

◆ Screening for tuberculosis by tuberculin skin test **(TST)** per AR 40-5, **para.** 4-3. The local preventive medicine authority may increase the frequency of any screening as mission considerations suggest per AR **40-5, para 4-3*h*.**

◆ Periodic screening for human immunodeficiency virus **(HIV)** per AR 600-1.10.

◆ Periodic review of immunization status to maintain unit readiness for deployment per AR 600-8-l and AR **600-8-101.**

◆ Periodic **(fifth** birth anniversary) history and physical exam per **AR** 40-501 and *AR 40-5.*

Medical ***surveillance*** *data for the population*

To allow health care providers to **obtain** and study medical surveillance data on the **entire** population of GRREG personnel. employees should provide **their** job **title** to the health care provider when receiving care.

Routine health care

Access of all **GRREG** personnel to routine health care through the sick **call** process is necessary to medical surveillance.

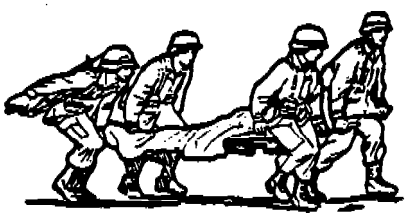
For further details, *see* ***USAEHA TG*** *190,* ***Element*** *4:* ***Hepatitis*** *B Vaccination and Post-Exposure* ***Evaluation*** *and* ***Follow-up***

U.S. Army Center for Health Promotion and Preventive Medicine

Just the Facts

56-011-0493

Regulated Medical Waste (RMW)



Handling RMW

- Place RMW in containers or bags that are color-coded (red bags or red containers) or labeled with the fluorescent orange or orange-red biohazard symbol.
- Place sharps in closeable. puncture-resistant, leakproof containers. Replace sharps containers when they are 3/4 full.
- Place blood-soaked disposable PPE and waste materials in leakproof plastic bags or impervious containers for transport to an appropriate disposal location.
- Close and seal containers and bags prior to removal or replacement to prevent spillage or protrusion of contents during handling, transport, or storage.
- Place containers of RMW in secondary bags or containers if contamination of outside surfaces occurs or if there is potential for leakage.
- Avoid excessive or rough handling to prevent rupture of containers and bags. Never attempt to compact RMW.
- Comply with all policies for RMW as implemented by the employer.

- Graves Registmtlon Personnel
- Safety and Health Precautions
- Disease and Injury Prevention

Guidelines for the Employer

The employer must -

- Develop an RMW program or policy.
- Oversee that employees handle RMW according to the program or policy.
- Follow local, state, and Federal regulations for disposal of RMW. Generally. RMW should be incinerated or decontaminated. Treated RMW may be disposed in a sanitary landfill if permitted by local law.

Healthcare Hazards Program
U.S. Army Environmental Hygiene Agency. Aberdeen Proving Ground, MD 210106422
DSN 584-3040 or Commercial 410-671-3040

REFERENCES

Ayliffe, G.A.J.; Collins, B.J.; and Taylor, L.J. Hospital-acquired Infection, Principles and Prevention. 2nd ed. London:. Butterworth & Co. Ltd, 1990. 89-92.

Berg, Rosemary, ed. The APIC Curriculum for Infection Control Practice. Vol. III. Dubuque: Kendall/Hunt Publishing Company, 1983. 1296-1298.

Coffee, C., and Graham, S.C. Telephone conversation. March 22, 1989 FONECON [Respirator use for body decomposition].

Department of Defense Hazardous Materials Information System.

Department of Labor. Fire brigades. [Code of Federal Regulations. Labor. Title 29, Part 1910.1561 Washington, DC: Office of the Federal Register.

Department of Labor. Hazard communication. [Code of Federal Regulations. Labor. Title 29, Part 1910.1200~ Washington, DC: Office of the Federal Register.

Department of Labor. Occupational exposure to bloodborne pathogens. [Code of Federal Regulations. Labor. Title 29, Part 1910.10301 Washington, DC: Office of the Federal Register.

Department of Labor. Respiratory protection. [Code of Federal Regulations. Labor. Title 29, Part 1910.1341 Washington, DC: Office of the Federal Register.

Department of Labor, Occupational Safety and Health Administration. Job Hazard Analysis. (OSHA 3071) Washington, DC: GPO, 1992.

Department of Labor, Occupational Safety and Health Administration. Occupational Exposure to Bloodborne Pathosens: Precaution for Emergency Responders. (OSHA 3130) Washington, DC: GPO, 1992.

Department of the Army. Accident Reporting and Records. [AR 385-401 Washington, DC: Department of the Army, 1987.

Department of the Army. Army Casualty and Memorial Affairs and Line of Duty Investigations. [AR 600-8-1] Washington, DC: Department of the Army, 1986.

Department of the Army. Handling of Deceased Personnel in Theaters of Operation. [Federal Manual 10-63] Washington, DC: Department of the Army, 1986.

Department of the Army. Identification, Surveillance, and Administration of Personnel Infected with Human Immunodeficiency Virus (HIV). [AR 600-110] Washington, DC: Department of the Army, 1988.

Department of the Army. Immunization and Chemoprophylaxis. [AR 40-562] Washington, DC: Department of the Army, 1988.

Department of the Army. Personnel Processins (In and Out and Mobilization Processins). [AR 600-8-101] Washington, DC: Department of the Army, 1989.

Department of the Army. Preventive Medicine. [AR 40-5] Washington, DC: Department of the Army, 1990.

Department of the Army. Standards of Medical Fitness. [AR 40-501] Washington, DC: Department of the Army, 1989.

Heatfield, B. Handout. July 16, 1991. [Hazards associated with handling human remains].

Lowbury, E.J.L.; Ayliffe, G.A.J.; Geddes, A.M.; and Williams, J.D.; eds. Control of Hospital Infection. London: Chapman and Hall, 1975. 268-270.

National Institute for Occupational Safety and Health. Guidelines for the Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health-Care and Public Safety Workers. [NIOSH Publication 89-107] Washington, DC: GPO, 1989.

Newsom, S.W.B.; Rowlands, C.; Matthews, J.; and Elliot, C.J. "Aerosols in the Mortuary." Journal of Clinical Patholosy. Vol. 36, #2 (1983): 127-132.

Nwanyanwu, O.C.; Tabasuri, T.H.; Harris, G.R. "Exposure to and Precautions for Blood and Body Fluids Among Workers in the Funeral Home Franchises of Fort Worth, Texas." American Journal of Infection Control. Vol. 17, #4 (1989): 208-212.

U.S. Army Environmental Hygiene Agency. Guide to Managing Occupational Exposure to Bloodborne Pathogens. [USAEHA Technical Guide 1901 October 1992.

U.S. Army Health Services Command. (HSCL-P) Memorandum. Model Medical Waste Regulation. 24 July 1990.

Obtaining **References**

Code of Federal Regulations may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402 [(202) 783-32381.

NIOSH publications may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402.

USAEHA Technical Guides may be obtained from the Commander, USAEHA, ATTN: HSHB-CM-I, Aberdeen Proving Ground, MD 21010-5422.

GLOSSARY

Section I
Abbreviations

AR
Army Regulation

CFR
Code of Federal Regulations

FM
Federal Manual

GRREG
graves registration

HBV
hepatitis B virus

HIV
human immunodeficiency virus

MOS
Military Occupational Specialty

OPIM
other potentially infectious materials

OSHA
Occupational Safety and Health Administration

PPE
personal protective equipment

PVC
polyvinyl chloride

RMW
regulated medical waste

TG
technical guide

TST
tuberculin **skin test**

USAEHA
U.S. Army Environmental Hygiene Agency

Section II
Terms

bloodborne pathogens
Pathogenic microorganisms that are present in human'blood and can cause disease in humans.

contaminated
The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

contaminated laundry
Laundry soiled with blood or other potentially infectious materials.

decontamination
The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface item is rendered safe for handling, use, or disposal.

engineering controls
Controls (e.g., sharps disposal containers) that isolate or remove the bloodborne pathogens hazard from the workplace.

exposure **incident**
A specific eye, mouth, or other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious material that results from the performance of an employee's duties.

handwashing facilities
A facility with an adequate supply of running potable water, soap, and single use towels.

occupational exposure
A reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

other potentially infectious materials
The following body fluids: semen, vaginal secretions, cerebrospinal fluid, pericardial fluid, peritoneal fluid, amniotic fluid, any body fluid that is visibly contaminated with blood, and all body fluids where it is difficult or impossible to determine the composition of the fluids. In addition to the body fluids described above, any unfixed tissue or organ from a human (living or dead).

parenteral
Piercing of the mucous membranes or the skin (i.e., needlesticks, cuts, abrasions, etc.).

personal protective equipment
Specialized clothing or equipment worn by an employee for protection against a hazard.

regulated medical waste
Waste that is potentially capable of causing disease in man and may pose a risk to both individual or community health if not handled or treated properly. Examples include: human pathological waste, including tissues, organs, body parts, teeth; body fluids; free-flowing blood; items that are saturated or dripping with human blood or body fluids; and contaminated sharps.

sterilize
The use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

universal precaution8
The practice of treating all human blood and certain body fluids as if known to be infectious for HIV, HBV, and **other bloodborne** pathogens.

work practice controls
Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.